



Clearing and Grading Regulations Exposed

Perhaps the single most destructive stage in the development process involves the clearing of vegetative cover and the subsequent grading of the site to achieve a more buildable landscape. The potential impacts to a stream and its watershed in this stage are numerous and profound. Trees and topsoil are removed, and soils are exposed to erosion. Heavy equipment compacts underlying soils, reducing their capability to infiltrate rainfall. Steep slopes are cut, and the natural topography and drainage of the site is altered. The existence of buffers and environmentally sensitive areas are at risk from clearing or erosion.

For many years, local governments have recognized the environmental consequences of poor clearing and grading practices and have adopted a series of regulations during this phase of development. These diverse regulations include restrictions on clearing steep slopes, requirements to install sediment controls, and requirements to revegetate exposed soils or protect existing trees.

Corish (1994) analyzed the quality and effectiveness of these regulations in a detailed survey of 43 local government programs across the country. In most communities, these regulations had been on the books for 10 years or more (68%) and had seldom been revised (only 33% of all programs had been revisited, usually to strengthen tree protection requirements). Her study indicated that many local clearing and grading programs could stand significant improvement. The results are summarized in Table 1. Key findings include the following:

Inadequate Revegetation of Cleared Sites

While nearly all programs required that exposed soils must be revegetated after final grading (88%), the survey results indicate that this may not be a rapid or successful operation. For example, one-third of all programs did not impose any time limit for the permanent revegetation of the site, thereby increasing the chances for soil erosion to occur. Communities that did impose a time limit were rather generous, as over two-thirds allowed more than three weeks for revegetation. Even so, 44% of the programs indicated that soils were often still exposed after their prescribed time-limit expired. Problems were also routinely encountered in establishing good cover after revegetation occurred—56% of

local programs surveyed indicated that revegetation efforts were frequently unsuccessful due to poor planting or seeding techniques.

Few Limits on Excessive Clearing

Few communities have sought to actually prevent excessive clearing and grading at the site. Instead, they primarily focus on the control of erosion *after* it occurs (e.g., through vegetative stabilization, sediment traps and other controls). For example, only 17% of all programs specified that a portion of the site may not be cleared or graded. Even less (15%) indicated that their ordinance required a developer to phase or sequence construction so as to reduce the length of time that the entire area is exposed to erosion. Only 36% of programs

Table 1: Clearing and Grading Report Card, N = 43
(Corish, 1994)

Program element	Percentage reporting
Preserved trees are not adequately protected	57
Sensitive areas are not adequately protected	49
Too much land is needlessly cleared	24
A minimum portion of site must remain undisturbed	17
E&S controls are not adequately maintained	67
Required revegetation is unsuccessful	56
No time limit for revegetation is imposed	33
A time-limit greater than 20 days is imposed	33
Land remains unvegetated after time limit expires	44
Clearing or grading in floodplains, erodible soils, stream buffers or riparian areas is prohibited in their ordinance.	40 or less
Clearing of steep slopes is prohibited by law	36
Cleared slopes are not adequately protected	44
Slopes are cut more than authorized on plan	26
They require practices to prevent soil compaction	28
Soil compaction is a severe problem at the site	28
They encounter few problems during construction	18
As-built topo survey is required for compliance	28
Preconstruction inspections used to define limits of disturbance	40